2. The method of claim 1, wherein said coating step is carried out by using an agglomerator or a spray dryer.

3. The method of claim 1, wherein said conductive polymer is selected from the group consisting of polypyrrole, polyaniline, polythiophene, polyacetylene, derivatives thereof, and mixtures thereof.

4. The method of claim 3, wherein said conductive polymer is emeraldine base or a polymer in doping state.

5. The method of claim 1, wherein said coating solution further comprises a conductive agent.

6. The method of claim 1, wherein said coating solution further comprises a conductive agent and an ionic conductive polymer.

7. The method of claim 6, wherein said ionic conductive polymer is selected from the group consisting of polyethylene oxide, polypropylene oxide, polyethylene glycol, derivatives thereof, salts thereof and mixtures thereof.

8. The method of claim 1, wherein said lithium complex metal oxide is selected from the group consisting of $Li_xMn_{1-y}M'_yA_2$, $Li_xMn_{1-y}M'_yO_{2-z}A_z$, $Li_xMn_2O_{4-z}A_z$, $Li_xMn_{2-y}M'_yA_4$, $Li_xM_{1-y}M''_yA_2$, $Li_xMO_{2-z}A_z$, $Li_xNi_{1-y}Co_yO_{2-z}A_z$, $Li_xNi_{1-y-z}Co_yM''_zA\alpha$, and $Li_xNi_{1-y-z}Mn_yM'_zA\alpha$, wherein $0.95 \leq x \leq 1.1$, $0 \leq y \leq 0.5$, $0 \leq z \leq 0.5$, $0 < \alpha \leq 2$, M is Ni or Co, M' is at least one element selected from the group consisting of Al, Ni, Co, Cr, Fe, Mg, Sr, V, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, and Lr, M" is at least one element selected from the group consisting of Al, Cr, Mn, Fe, Mg, Sr, V, Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, and Lr, and A is selected from the group consisting of O, F, S and P.

9. The method of claim 8, wherein said lithium complex metal oxide is selected from the group consisting of $Li_xMn_{1-y}M'_yA_2$, $Li_xMn_{1-y}M'_yO_{2-z}A_z$, $Li_xMn_2O_{4-z}A_z$, and $Li_xMn_{2-y}M'_yA_4$

10. The method of claim 1, wherein the amount of coated conductive polymer ranges from 1 to 30 wt% based on the weight of the lithium metal oxide.

11. The method of claim 1, wherein the amount of coated conductive polymer ranges from 1 to 10 wt% based on the weight of the lithium metal oxide.

12. The method of claim 1, wherein the lithium complex metal oxide is coated with the coating solution to form a coating layer having a thickness ranging from 0.1 to 1 μm .

13. (New) The method of claim 1, wherein the lithium complex metal oxide is coated generally evenly over the entire surface of the metal oxide.

14. (New) A method of preparing positive active material for a lithium secondary battery comprising:

preparing a coating solution by dissolving a conductive polymer in a solvent; and

coating lithium-containing manganese-based metal oxide with the coating solution.

15. (New) The method of claim 14, wherein said conductive polymer is selected from the group consisting of polypyrrole, polyaniline, polythiophene, polyacetylene, derivatives thereof, and mixtures thereof.

16. (New) The method of claim 14, wherein said coating solution further comprises a conductive agent and an ionic conductive polymer.

17. (New) The method of claim 16, wherein the amount of coated conductive polymer ranges from 1 to 30 wt% based on the weight of the lithium metal oxide.